AMENDMENTS TO THE CLAIMS

Please **AMEND** claim 51 as shown below.

The following is a complete list of all claims in this application.

1.   (Previously Presented) A network switching device comprising:

an ingress module configured to receive frames of data from a first channel, and store the frames of data in one or more buffers, wherein each frame of data has one of a plurality of classes of service;

one or more queues;

a forwarding module configured to enqueue each of the one or more buffers by sending a pointer for each of the one or more buffers to one or more queues after the ingress module stores the frames of data in one or more of the one or more buffers; and

a plurality of counters comprising one counter for each of the classes of service, wherein each of the counters is configured to

store a count for the first channel for a respective one of the classes of service,

increment the count when the forwarding module enqueues one of the buffers storing one of the frames of data having the respective class of service, and

decrement the count after the frame of data stored in a buffer for a frame received from the first channel and having the respective class of service is transmitted from the network switching device; and

an egress module configured to retrieve the frames of data from the one or more buffers, transmit the retrieved frames of data to a second channel, and exercise flow control on the first

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channel for each of the classes of service when the count for the class of service exceeds a

dynamic pause threshold for the class of service, the dynamic pause threshold defined by

$$Pondyn = Kon \ x \ FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

2.   (Previously Presented) The network switching device of claim 1:

wherein, to exercise flow control for one of the classes of service, the egress module is

further configured to send a pause frame to the first channel, and wherein the pause frame

indicates the one of the classes of service to be paused.

3.   (Previously Presented) The network switching device of claim 1:

wherein the egress module is further configured to terminate flow control on the first

channel for the classes of service when the count for the class of service falls below the dynamic

pause threshold for the class of service.

4.   (Previously Presented) The network switching device of claim 3:

wherein, to terminate flow control for one of the classes of service, the egress module is

further configured to send a pause release frame to the first channel, and wherein the pause

release frame indicates the one of the classes of service to be released.

5-6.   (Cancelled)

7.   (Previously Presented) An integrated circuit comprising the network switching device of claim 1.

8.   (Previously Presented) A network switch comprising the network switching device of claim 1.

9.   (Previously Presented) An output-queued network switch comprising the network switching device of claim 1.

10.   (Previously Presented) The network switching device of claim 1, further comprising:

a memory comprising the buffers.

11.   (Previously Presented) An integrated circuit comprising the network switching device of claim 10.

12.   (Previously Presented) The network switching device of claim 1, further comprising a reserve module configured to reserve one or more buffers to the first channel.

13.   (Previously Presented) The network switching device of claim 3, further comprising a reserve module configured to reserve one or more buffers to the first channel.

14.   (Previously Presented) A network switching device comprising:

ingress module means for receiving frames of data from a first channel, wherein each

frame of data has one of a plurality of classes of service, and storing the data in one or more

buffers;

one or more queue means for queuing the one or more buffers;

forwarding module means for enqueuing each of the one or more buffers by sending a

pointer for each of the one or more buffers to one or more of the one or more queue means after

the ingress module means stores one of the frames of data in the one or more buffers;

a plurality of counter means comprising one counter means for each of the classes of

service, each of the counter means for:

storing a count for the first channel for a respective one of the classes of service,

incrementing the count when the forwarding module enqueues one of the buffers storing

one of the frames of data having the respective class of service, and

decrementing the count after the frame of data stored in a buffer, from the first channel

and having the respective class of service is transmitted from the network switching device; and

egress module means for retrieving the frames of data from the one or more buffers,

outputting the frames of data to a second channel and exercising flow control on the first channel

for each of the classes of service when the count for the class of service exceeds a dynamic pause

threshold for the class of service, the dynamic pause threshold defined by

$$Pondyn = Kon \ x \ FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

15.   (Previously Presented) The network switching device of claim 14:

wherein, to exercise flow control for one of the classes of service, the egress module means sends a pause frame to the first channel; and wherein the pause frame indicates the one of the classes of service to be paused.

16.   (Previously Presented) The network switching device of claim 14:

wherein the egress module means terminates flow control on the first channel for each of the classes of service when the count for the class of service falls below the dynamic pause threshold for the class of service.

17.   (Previously Presented) The network switching device of claim 16:

wherein, to terminate flow control for one of the classes of service, the egress module means sends a pause release frame to the first channel, and wherein the pause release frame indicates the one of the classes of service to be released.

18-19. (Cancelled)

20.   (Previously Presented) An integrated circuit comprising the network switching device of claim 14.

21.   (Previously Presented) A network switch comprising the network switching device of claim 14.

22.   (Previously Presented) An output-queued network switch comprising the network switching device of claim 14.

23.   (Previously Presented) The network switching device of claim 14, further comprising reserve module means for reserving one or more buffers to the first channel.

24.   (Previously Presented) The network switching device of claim 16, further comprising reserve module means for reserving one or more buffers to the first channel.

25.   (Previously Presented) A method comprising:

receiving frames of data from a first channel via an ingress module, wherein each frame of data has one of a plurality of classes of service;

storing the frames of data in one or more buffers;

enqueueing each of the one or more buffers by sending a pointer for each of the one or more buffers to one or more output queues after storing one of the frames of data in the buffer;

storing a count for the first channel for each of the classes of service;

incrementing the count for one of the classes of service enqueueing one of the buffers storing one of the frames of data received from the first channel and having the one of the classes of service;

decrementing the count for one of the classes of service after the frame of data stored in a buffer, received from the first channel and having the one of the classes of service is transmitted;

exercising flow control on the first channel for each of the classes of service using an

egress module when the count for one of the classes of service exceeds a dynamic pause

threshold for the class of service;

retrieving the frames of data from the one or more buffers; and

transmitting the retrieved frames of data to a second channel via the egress module,

wherein the dynamic pause threshold is defined by

$$Pondyn = Kon \; x \; FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

26.   (Previously Presented) The method of claim 25, wherein exercising flow control

for one of the classes of service comprises:

sending a pause frame to the first channel, wherein the pause frame indicates the one of

the classes of service to be paused.

27.   (Previously Presented) The method of claim 25, further comprising:

terminating flow control on the first channel for each of the classes of service when the

count for the one of the classes falls below the dynamic pause threshold for the class of service.

28.   (Previously Presented) The method of claim 27, wherein terminating flow control

for one of the classes of service comprises:

sending a pause release frame to the first channel, and wherein the pause release frame

indicates the one of the classes of service to be released.

29-30. (Cancelled)

31.   (Previously Presented) A computer readable medium having a stored computer program embodying instructions executable by a computer, which, when executed by the computer, cause the computer to control an apparatus having an ingress module connected to a first channel and an egress module connected to a second channel, the instructions comprising:

instructions for receiving frames of data from the first channel via the ingress module, wherein each frame of data has one of a plurality of classes of service;

instructions for storing the frames of data in one or more buffers;

instructions for enqueueing each of the one or more buffers by sending a pointer for each of the one or more buffers to one or more output queues after storing the data for one of the frames in the buffer;

instructions for storing a count for the first channel for each of the classes of service;

instructions for incrementing the count for one of the classes of service when enqueueing one of the buffers storing the data for one of the frames received from the first channel and having one of the classes of service, and

instructions for decrementing the count for one of the classes of service after the data stored in a buffer for a frame received from the first channel and having the one of the classes of service is transmitted;

instructions for causing the egress module to exercise flow control on the first channel for each of the classes of service when the count for the class of service exceeds a dynamic pause threshold for the class of service;

instructions for retrieving the frames of data from the one or more buffers; and

instructions for transmitting the retrieved frames of data via the egress module to the

second channel,

wherein the dynamic pause threshold is defined by

$$Pondyn = Kon \; x \; FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

32.   (Previously Presented) The computer readable medium of claim 31, wherein the

instructions for causing the egress module to exercise flow control for one of the classes of

service comprises:

instructions for causing the egress module to send a pause frame to the first channel,

wherein the pause frame indicates the one of the classes of service to be paused.

33.   (Previously Presented) The computer readable medium of claim 31, the

instructions further comprising:

instructions for causing the egress module to terminate flow control on the first channel

for each of the classes of service when the count for each class of service falls below the

dynamic pause threshold for the class of service.

34.   (Previously Presented) The computer readable medium of claim 33, wherein the

instructions for causing the egress module to terminate flow control for one of the classes of

service comprises:

instructions for causing the egress module to send a pause release frame to the first

channel, wherein the pause release frame indicates the one of the classes of service to be released.

35-36. (Cancelled)

37. (Previously Presented) A network switching device comprising:

a plurality of counters for a plurality of classes of service, respectively, each counter

configured to:

store a count for a respective one of the classes of service;

increment the count when one of buffers storing one or more frames of data

having the respective class of service is enqueued by sending a pointer for each of the one

or more buffers to one or more output queues; and

decrement the count after the one or more frames of data stored in the one or more

buffers is transmitted from the network switching device;

an egress module configured to retrieve the one or more frames of data from the buffers

and output the retrieved one or more frames to a destination channel, the egress module further

configured to generate a pause frame indicating one or more of the classes of service to be

paused when one or more counts for the one or more classes of service exceed a dynamic pause

threshold for the one or more classes of service.; and

an ingress module configured to receive the one or more frames from a source channel

and store the one or more frames to the buffers-wherien the dynamic pause threshold is defined

by

$$Pondyn = Kon \; x \; FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the ingress module.

38.   (Previously Presented) The network switching device of claim 37,

wherein the egress module is further configured to generate a pause release frame

indicating one or more of the classes of service to be released when one or more counts for the

respective classes of service fall below the dynamic pause threshold for the respective classes of

service.

39.   (Previously Presented) An integrated circuit comprising the network switching

device of claim 37.

40.   (Previously Presented) A network switch comprising the network switching

device of claim 37.

41.   (Previously Presented) An output-queued network switch comprising the network

switching device of claim 37.

42.   (Previously Presented) The network switching device of claim 37, further

comprising a memory including the buffers.

43.   (Previously Presented) An integrated circuit comprising the network switching

device of claim 42.

44.   (Previously Presented) A network switching device comprising:

means for receiving one or more frames of data from a source channel;

means for storing a plurality of counts for a plurality of classes of service, respectively;

means for incrementing each count upon enqueuing one or more buffers storing the one

or more frames of data by sending a pointer for each of the one or more buffers to one or more

output queues, each of the frames of data having one of the classes of service; and

means for decrementing each count after the one or more frames of data stored in the one

or more buffers are transmitted from the network switching device; and

means for outputting the one or more frames of data stored in the one or more buffers to a

destination channel, wherein the means for outputting generates a pause frame indicating one or

more classes of services to be paused when the one or more counts for the respective classes of

service exceed a dynamic pause threshold for the respective classes of service, wherein the

dynamic pause threshold is defined by

$$Pondyn = Kon \; x \; FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

45.   (Previously Presented) The network switching device of claim 44, wherein the

means for outputting generates a pause release frame indicating one or more of the classes of

service to be released when one or more counts for the respective classes of service fall below

the dynamic pause threshold for the respective classes of service.

46.   (Previously Presented) An integrated circuit comprising the network switching device of claim 44.

47.   (Previously Presented) A network switch comprising the network switching device of claim 44.

48.   (Previously Presented) An output-queued network switch comprising the network switching device of claim 44.

49.   (Previously Presented) A method comprising:

receiving one or more frames of data from a source channel via an ingress module;

storing a plurality of counts for a plurality of classes of service, respectively;

incrementing each count upon enqueuing one or more buffers storing the one or more frames of data by sending a pointer for each of the one or more buffers to one or more output queues, each frame of data having one of the classes of service;

decrementing each count after the one or more frames of data stored in the one or more buffers and having the one of the classes of service are transmitted from the network switching device;

causing an egress module to generate a pause frame indicating that one or more of the classes of service to be paused when one or more counts for the respective classes of service exceed a dynamic pause threshold for the respective classes of service;

sending the pause frame to a source channel ingress module;

retrieving the one or more frames of data stored in the one or more buffers; and

outputting the retrieved one or more frames to a destination channel via the egress

module,

wherein the dynamic pause threshold is defined by

$$Pondyn = Kon \: x \: FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and

Freesize is a number of pointers available for the received frames of data.

50.   (Previously Presented) The method of claim 49, further comprising:

causing the egress module to generate a pause release frame indicating one or more of the

classes of service to be released when one or more counts for the respective classes of service

fall below the dynamic pause threshold for the respective classes of service.

51.   (Currently Amended) A computer readable medium having a stored computer

program embodying instructions, which, when executed by a computer, cause the computer to

control an apparatus having an ingress module connected to a source channel and an egress

module connected to a destination channel, the instructions comprising:

instructions for receiving one or more frames of data from a source channel via an ingress

module;

instructions for storing a plurality of counts for [[a]] the source channel for a plurality of

classes of service, respectively;

instructions for incrementing each count upon enqueuing one or more buffers storing the

one or more frames of data having the respective class of service by sending a pointer for each of

the one or more buffers to one or more output queues;

instructions for decrementing each count after the one or more frames of data stored in the one or more buffers and having the respective class of service is transmitted from the network switching device; and

instructions for causing the egress module to generate a pause frame indicating that one or more classes of services to be paused when one or more counts for the respective classes of service exceed a dynamic pause threshold for the respective classes of service,

wherein the dynamic pause threshold is defined by

$$Pondyn = Kon \times FreeSize \pm Offset,$$

wherein Pondyn is the dynamic pause threshold, Kon and Offset are constants and Freesize is a number of pointers available for the received frames of data.

52. (Previously Presented) The computer readable medium of claim 51, the instructions further comprising: instructions for causing the egress module to generate a pause release frame indicating that one or more of the classes of service to be released when one or more counts for the respective classes of service fall below the dynamic pause threshold for the respective classes of service.

53-60. (Cancelled)